

**Arkansas Nuclear One** <http://pbadupws.nrc.gov/docs/ML1113/ML11133A307.pdf>

- Several of the portable flood control pumps were not functional. The licensee has sufficient numbers of portable pumps on hand to meet the B.5.b strategy. The licensee is verifying the adequacy of the process to ensure portable pumps are maintained in a functional status. (page 7)

- During walk downs, it was discovered that pre-marked locations for cutting access holes in the unit 1 spent fuel pool roof had been obscured during roof upgrade activities. These marks have been reapplied. (page 10)

- During walk downs, two pieces of passive equipment necessary to flood the Unit 1 or Unit 2 containment building via the escape hatches were not identified or staged with B.5.b equipment. The equipment has been obtained and staged. The procedure was changed to reflect the connections and equipment. (page 10)

**Beaver Valley** <http://pbadupws.nrc.gov/docs/ML1113/ML111310328.pdf>

- Although the station meets the current design and licensing bases for station blackout, the inspectors concluded that coping with a dual unit Station Blackout (a beyond design basis event) could present significant challenges. For example: the SBO cross-tie equipment is located in non-seismically qualified areas (normal switchgear) of each unit; and Unit 1 requires AC power to the MOVs to isolate the safety injection accumulators during RCS depressurization. The licensee documented the general issue of a dual unit SBO under CR 1 1-93717. (page 16)

- While no operability or significant concerns were identified, the licensee identified that two portable pumps credited in the flood analysis did not have periodic testing performed, and that flood barriers and penetrations that were not part of the fire protection program were not routinely inspected. These and several other minor deficiencies were entered into the CAP and the associated condition reports are listed in the Attachment to this report (page 17)

**Braidwood** <http://pbadupws.nrc.gov/docs/ML1113/ML111320261.pdf>

- The inspectors identified that the licensee would have encountered several unplanned challenges in implementing various B.5.b mitigating strategies. These issues were identified by both the inspectors and by the licensee. These challenges include several examples in which prior opportunities for identification by the licensee existed. For example, the starting of the B.5.b pump was delayed after an issue with a support system required to start the pump was identified (IR 118926). Other delays identified by the licensee and/or the inspectors included: • Flanges required to support B.5.b strategies were made of steel and were very heavy, making transport and installation of the equipment difficult with the resources that may be available (IR 1190517); • Difficulty in obtaining access to a fire protection valve needed to implement B.5.b strategies due to the specific location (IR 1190203); • Miscellaneous B.5.b equipment was not labeled (IR 1195986, IR 1190292); • A weld must be removed to open a hatch to gain access to a refueling water storage tank (RWST) area used to implement B.5.b strategies (IR 1190588); (pages 6-7)

**Browns Ferry** <http://pbadupws.nrc.gov/docs/ML1113/ML111330509.pdf>

- The inspectors determined that the licensee did not adequately verify the station's capability to mitigate Station Blackout conditions. The AOI that governs response to an Station Blackout was not completely walked down, and therefore, was not demonstrated to be executable. Specifically, control room operator actions were not walked down. (page 16)

- However, the inspectors identified two longstanding licensee identified issues associated with Station Blackout mitigation capabilities that have not been completely resolved to date. These issues were associated with installed plant equipment involving safety related Emergency Diesel Generators (EDG) and the non-safety related 4KV Bus-Tie Board. The EDG parallel function has never been fully tested with two Residual Heat Removal (RHR) pumps loaded onto the same bus supplied from two paralleled Emergency Diesel Generators. The licensee's design basis LOCA (Loss of Coolant Accident) with a concurrent LOOP (Loss of Offsite Power) required the onsite electrical system to be capable of powering two RHR subsystems (two RHR and two RHR Service Water pumps) on each unit, which per the

licensee's loss of offsite power and SBO procedure, required paralleling the Unit 1/2 and Unit 3 DGs for long term suppression pool cooling. (pages 13-14)

**Brunswick** <http://pbadupws.nrc.gov/docs/ML1113/ML111330094.pdf>

- Inspectors also noted that the B.5.b equipment is stored in areas that would be affected by non-B.5.b scenarios. This would reduce its effectiveness in a severe natural phenomenon scenario, such as hurricane or flooding. Although this is in accordance with B.5.b guidelines, it is not reasonable to assume that the equipment would be available in a severe weather event. (page 10)

- Diesel fire pump batteries and 4kV breaker control box for the electric fire pump would be under water during a design basis external flooding event. Both of these pumps are located at ground level in the makeup water treatment building. This building is not seismically qualified or safety related. While designed according to existing requirements, this equipment would be adversely affected by a severe natural phenomenon. The licensee is assessing an improvement to this equipment through their corrective action program. (page 18)

**Byron** <http://pbadupws.nrc.gov/docs/ML1113/ML111320288.pdf>

- The flood barrier surveillance procedure did not require that heavy floor plugs be removed periodically to check the condition of their seals. A concern with the condition of the plug seals had been previously identified by the NRC inspectors in the spring of 2007 and in response the licensee had enhanced their flood seal inspections to add a requirement that when a floor plug was removed that flood seal be inspected. Additional enhancements were being considered by the licensee. (page 13)

**Callaway** <http://pbadupws.nrc.gov/docs/ML1113/ML11133A171.pdf>

- The inspectors noted that the potential source of flooding identified for Rooms 5201 and 5203, emergency diesel generator rooms, was nonconservative in that it: Used a pressure lower than the system design pressure for the postulated break in the essential service water system. Credited installed sump pumps when a credible single source of power loss would have affected both pumps. A reanalysis confirmed that the resulting flood height with no sump pumps was acceptable. These issues were entered into the corrective action program as Callaway Action Request 201102691. The inspectors also identified that the licensee had not updated the internal flooding analysis for Room 3101, essential service water pipe chase, following a planned modification to the essential service water supply and return headers. Specifically, the licensee's installation of high density polyethylene piping created a potential flooding source in excess of that currently analyzed in the Callaway licensing basis. (page 16)

- Also, the scenario posed revealed that the fire pumper truck did not have sufficient lengths of suction hose to reach the alternate water sources specified in the licensee procedure. Additional suction hose was located elsewhere in a procedurally unspecified locker after the inspectors' question. The procedure required a strainer for the suction hose that was not on the truck. (page 19)

**Calvert Cliffs May 13** <http://pbadupws.nrc.gov/docs/ML1113/ML111310243.pdf>

- The inspector identified that the acceptance criteria for the timed start of the Station Blackout diesel was non-conservative. A timed start of the SBO is performed every 24 months to verify that the SBO diesel can be started and loaded within one hour of an SBO condition. The inspector determined that the acceptance criteria did not take into account the time for operators to complete steps in Emergency Operating Procedure(EOP)-O, "Post-Trip Immediate Actions." In the event of a Station Blackout, operators would perform steps in EOP-0 prior to transitioning to the EOP-7, "Station Blackout," which would be used to start and load the SBO diesel. The licensee initiated action to evaluate and correct the acceptance criteria. The inspector determined that the issue is minor because even with the adjustment to the acceptance criteria, the licensee can still meet the SBO rule requirements to start and load the SBO diesel within one hour of an SBO condition. (page 14)

**Catawba** <http://pbadupws.nrc.gov/docs/ML1113/ML111330185.pdf>

- Foam penetration seals in the auxiliary feedwater pump rooms and the diesel room roofs were not coated with sealant per the licensee's design specification. The licensee wrote Work Orders to apply sealant to the foam. • The auxiliary feedwater room penetration seals were not included in the licensee's internal flooding design basis document and were inspected as part of the existing seal inspection PM. Additional inspection PMs were created for inspection of conduit manhole flood seals and the diesel generator roof hatch covers. The licensee noted that two limited areas of the cooling tower yard berms designed to direct precipitation runoff away from the power block were degraded and required repair. Additionally, two jersey barriers were identified near the low pressure service water intake structure that could potentially affect runoff and were removed. The inspectors noted several cooling tower yard catch basins were partially blocked by rocks, silt and vegetation growth. Additional minor issues were identified relating to degraded trench cover sealant and flood barrier/door labeling. (page 14)

**Clinton** <http://pbadupws.nrc.gov/docs/ML1113/ML111320336.pdf>

- Material condition of the diesel-driven horizontal fire pump was generally poor and the licensee has not focused appropriate attention to maintaining the pump. During a test run observed by the inspectors on April 6, 2011, the pump's inboard and outboard shaft packing glands overheated and failed. The operator had to shut down the pump early during the test run. ARs 01198618 and 01203214 were written to address the pump shaft packing problem. During the past year, there have been several material condition issues identified by the licensee affecting the horizontal fire pump including problems with the pump shaft packing glands, bearings, battery, and battery charger. No specific commitments were found during this review for the licensee to maintain this pump to implement the strategies associated with B.5.b and 10 CFR 50.54(hh). (page 7)

- Adequate training is lacking for implementation of CPS 4303.01, "Extensive Damage Mitigation Guide," and CPS 4303.01P018, "ERO Activation During Extreme Damage Event," to enable non-licensed plant staff (e.g., non-licensed operators and security staff) on shift to initiate communications and activate the ERO in accordance with the procedures. In particular, non-licensed operators and security staff were unfamiliar with these procedures and have had no specific training on them. (page 10)

- AR 01197979 was written to identify that most flood penetration seals were not routinely inspected. No preventive maintenance program or procedural acceptance criteria existed. The licensee completed walk downs of plant areas with flood penetration seals and observed accessible seals. The licensee's long term resolution will be to develop a preventive maintenance program to inspect seals on a periodic basis. (page 16)

**Columbia Generating Station** <http://pbadupws.nrc.gov/docs/ML1113/ML11133A202.pdf>

**Comanche Peak** <http://pbadupws.nrc.gov/docs/ML1113/ML11133A184.pdf>

- The inspectors observed that some suction hoses listed in the extreme damage mitigation procedure for the accident mitigation equipment pump were not in the designated location or were absent. The equipment in the procedure did not match the operations inventory that the licensee used to walk down the equipment. This observation was documented in Condition Report CR-2011-004919. The licensee currently plans to add suction hoses or revise the procedure as necessary. The inspectors plan to conduct further inspection and document the results in NRC Inspection Report 2011003. The inspectors also observed that some electrical equipment used in the extreme damage mitigation alternate instrument power and indication was absent, however, identical equipment was available in a different location that was proceduralized. (page 7)

- The inspectors observed that the lube oil storage building is a potential fire/explosion hazard and is located near the accident mitigation equipment sea-land trailer. The licensee documented this observation in Condition Report CR-2011-005399. The inspectors also observed that the alternate service water pumps were located in a non-seismic building. The licensee documented this observation in Condition Report CR-2011-005615. In addition, the inspectors observed that the licensee has never tested the fire truck pumping from the reservoir. (page 17)

**Cooper** <http://pbadupws.nrc.gov/docs/ML1113/ML11133A168.pdf>

- The licensee has an issue documented in Inspection Report 05000298/2010006, "Cooper Nuclear Station - NRC Triennial Fire Protection Inspection Report," Dated March 17, 2011, that is relevant to this inspection scope: An apparent violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," and Criterion XVI, "Corrective Action," with a preliminary white significance, was identified for the licensee's failure to ensure that some steps contained in emergency procedures at Cooper Nuclear Station would work as written and the concurrent failure to assure that a condition adverse to quality was promptly identified and corrected. (page 8)

- The licensee identified a potential vulnerability associated with its ability to position various contingency components during a site-wide flood. For example, the licensee's ability to put in place the portable fire pump or portable diesel generator would be challenged with the river at probable maximum flood levels. The licensee identified that the diesel fire pump batteries could be impacted during a probable maximum flood. The administration building houses the technical support center and the operations support center but receives no flooding barriers per current site procedures. The flooding of this building could hamper the execution of the emergency plan following a safe shutdown earthquake concurrent with a probable maximum flood event. All of these issues have been entered into the station corrective action program for resolution. (page 18)

**Crystal River** <http://pbadupws.nrc.gov/docs/ML1113/ML111330166.pdf>

- The licensee identified that some as-found raw water and circulating water encapsulation sleeve gap tolerances were too large and exceeded the design requirements. As a result of the larger gaps, a greater leak flow rate into the auxiliary building would cause the flood rate to increase. This in turn could challenge the 30-minute period that is credited for operators to take action to stop the leak into the auxiliary building. (page 18)

**DC Cook** <http://pbadupws.nrc.gov/docs/ML1113/ML111320302.pdf>

- The licensee identified during material staging walk downs that hoses for aligning demineralized water to the spent fuel pool during a loss of inventory needed to be designated and staged in closer proximity to the spent fuel pool. Additionally, the licensee identified that specified materials required to repair or reduce spent fuel pool leakage are currently stored off site and need to be stored on site. The inspectors verified these conditions were entered into the licensee's corrective action program. (page 10)

**Davis Besse** <http://pbadupws.nrc.gov/docs/ML1113/ML111320341.pdf>

- In one instance, however, the inspectors identified a discrepancy with the necessary equipment staged to perform the actions to start an Emergency Diesel Generator (EDG) without normal station direct current (dc) power available. Specifically, Attachment 8 of DB-OP-02600, "Operational Contingency Response Action Plan," requires a total of 11 prepared 8 gauge insulated wires. Nine wires are used to connect 10 emergency batteries in series, and 2 longer lead wires are provided to connect positive and negative sides of the series batteries to the EDG panel. When the batteries are connected they are able to produce an approximate 60 volts direct current (Vdc) supply used to provide excitation needed for field flash of the EDG. During a walkdown of the required inventory, the inspectors only found a total of 10 wires staged and available. One longer lead wire was missing from the bundle. (page 5)

- During their CAP review, however, the licensee noted that a previously identified condition documented in CR 10-79719 had not yet been fully corrected. That condition, a reduction in the Station Blackout diesel generator's cooling capacity, presently limits SBO diesel generator availability such that the Station Blackout diesel generator must be declared unavailable whenever outside ambient air temperature exceeds 95 degrees F. Corrective actions planned by the licensee include cleaning and inspection of the Station Blackout diesel generator radiator tubes. The licensee initiated CR 11-91648 to capture this issue in their CAP. (page 10)

**Diablo Canyon** <http://pbadupws.nrc.gov/docs/ML1113/ML11133A310.pdf>

- The licensee verified that the required equipment was available and functional. The following issues were entered into the licensee's corrective action program for evaluation for appropriate corrective actions: Notification 50373903: Portable long term cooling Pump 0-1 would not function when tested; and Notification 50383106: The licensee was unable to place the necessary temporary hoses from raw water reservoir to the plant due to obstructions created by recent security modifications. (page 7)

- The inspectors identified that the licensee did not have the ability to implement Procedure OP D-1:V, "Auxiliary Feedwater System Alternate Auxiliary Feedwater Supplies," Revision 21, on both units simultaneously to support mitigation of a postulated earthquake. Procedure OP D-1:V uses the diesel-driven long term cooling pump to provide inventory from the raw water storage tank to the turbine-driven auxiliary feedwater system. The inspectors identified that the procedure and staged equipment only supported make up to one of the Diablo Canyon units. The licensee entered this issue into the corrective action program as Notification 50391943. (page 8)

**Dresden** <http://pbadupws.nrc.gov/docs/ML1113/ML111320349.pdf>

- The 100 year flood level is 509' above sea level. The 500 year flood is about 513'. The PMF is at 528'. A summary of the flood strategy is that when water level rises above 517' (plant ground level), the doors to the reactor building will be opened and water will be let in. This was due to the inability of the reactor building walls to support water levels above 517'. Opening the doors will flood all safety-related emergency core cooling pumps because they are below grade. The only equipment capable of removing decay heat expected to remain functional after the PMF are the isolation condensers. The isolation condensers require make up flow to remain functional. The licensee flooding procedure requires that a sand bag wall be built around the installed diesel-driven isolation condenser make up pumps to about 519'. The only source of water for the isolation condensers on both units, after water level exceeds 519' was a single augmented-quality diesel-driven pump (flood pump). Since the PMF was 528', the pump would have to be hoisted into the air using a crane and a chain fall to remain above the flood waters. The source of water for the pump is the flood water off the reactor building floor. The pump has to be operated and refueled while hanging in the air. This pump will also provide cooling and makeup water to the spent fuel pools.

The strategy is based on the following assumptions:

- 1) Low probability of maximum probable flood (500 year flood is at 513');
- 2) Long lead time for water level to reach 517'. The licensee expects as much as 72 hours warning before water level would reach 509'. In this time, the reactor would be shutdown and cooled down and water level in the reactor would be flooded to the reactor head flange.

The inspectors observed the operation of the diesel-driven flood pump and reviewed the test results, interviewed operations management personnel, and reviewed procedures associated with flooding. The inspectors concluded that the procedures were in place and could be used as intended. However, the flood pump has never been operated while hoisted into the air.

**Duane Arnold** <http://pbadupws.nrc.gov/docs/ML1113/ML111320387.pdf>

- The licensee could not locate at the site a flood barrier cover for the auxiliary boiler intake louver which was required to be installed prior to reaching the design basis external flood elevation. A condition report was generated and a cover was procured and promptly delivered to the site. The licensee also identified three flood barriers that were challenging to install due to physical interferences, procedural or as-found design issues, and/or some configurations in the field not being aligned with design drawings. The licensee performed functionality assessments and determined that these barriers were functional, but non-conforming, and initiated compensatory measures until final corrective actions could be completed. Overall, the inspectors did not identify any significant concerns with the as-found or as-left ability to mitigate design bases internal or external flooding events. (page 12)

**Farley** <http://pbadupws.nrc.gov/docs/ML1113/ML111330097.pdf>



- The licensee noted minor discrepancies related to house keeping with potential debris that may clog floor drains. The licensee noted some storm drains were partially blocked by metal plates (for security purposes). The licensee identified four blocked floor drains in the service water intake structure and one in the Auxiliary Building of Unit 2. (page 15)

**Fermi** <http://pbadupws.nrc.gov/docs/ML1113/ML111320352.pdf>

- The inspectors identified that the wire for SRV local operation did not have an electrical connector for connecting the wire in the spool to the DC inverter connector. Although a field splice would be adequate, the licensee issued corrective action document CARD 11-22967 to find a plug that fits the inverter output plug and connect it to one end of the spool of wire. The inspectors noted that periodic checks of EDM equipment were never implemented per procedure 28.508.06. The inspectors also identified that there was no check of the in-line flow meter batteries. (page 6)

- Licensee flood mitigation procedures were reviewed to verify usability. The inspectors' conclusions aligned with the results obtained by the licensee except for an area outside of the power block that is subject to flooding that would affect some instrumentation that would cause a transfer in suction for the high pressure coolant injection (HPCI) and reactor core isolation cooling (RCIC) pumps to the safety-related source which is the torus. This was noted by the licensee in CARD 11-24296. These conditions will be reviewed as appropriate. (page 14)

**Fitzpatrick** <http://pbadupws.nrc.gov/docs/ML1113/ML111330455.pdf>

- The licensee identified an apparent beyond design and licensing basis vulnerability, in that current procedures do not address hydrogen considerations during primary containment venting. This issue was documented in CR-JAF-2011-01529. As an immediate corrective action, the licensee revised TSG-9 to provide a caution for operators to consider the presence of hydrogen. (page 14)

- The inspectors identified a beyond design and licensing bases vulnerability, in that FitzPatrick's current licensing basis did not require the plant to have a primary containment torus air space hardened vent system as part of their Mark I containment improvement program. The current licensed configuration is a hard pipe from primary containment to the suction of the standby gas treatment system, which is located outside the reactor building in an adjacent building. The NRC has established an agency task force to conduct a near term evaluation of the need for agency actions, which includes containment venting, following the events in Japan. (page 14-15)

- The licensee identified a vulnerability, in that AOP-49A contained contingency actions using the decay heat removal system in an attachment that directed operators to use normal operating procedures. The normal operating procedure for starting decay heat removal included unnecessary steps for a SBO situation and did not include workable provisions for starting decay heat removal with the system drained. The licensee initiated immediate corrective actions to revise the procedure and fabricate an adaptor to connect a 1.5 inch fire hose to a 1 inch pipe thread fitting in order to fill the decay heat removal system using fire water, if necessary. The licensee entered this issue into their corrective action program as CR-JAF-2011-01674. The inspector reviewed the licensee's immediate and proposed corrective actions, including their assessment and prioritization, and concluded they were reasonable. (page 15)

**Fort Calhoun** <http://pbadupws.nrc.gov/docs/ML1113/ML11133A339.pdf>

- Condition Reports were written for any deficiencies and for any procedure or material enhancements that were discovered. Specific vulnerabilities and deficiencies noted were: (1) severe accident management guideline equipment is not maintained through a preventive maintenance process – actions were assigned to develop regular inventories, inspections, and tests as appropriate; (2) one method of venting containment (personnel airlock door window removal) was not determined to be viable, however additional compensatory measures and capabilities have been identified; (3) one method of providing reactor coolant system makeup from the spent fuel pool was not determined to be credible – multiple alternate paths exist and improved procedure guidance may make this path credible again; (4) one degraded component, fire pump FP-154, is credited in the flow path for three of the methods of using

fire protection water to reduce offsite releases however, many alternatives exist and this equipment was previously identified and is scheduled for repair in early June, 2011; and (5) several procedure changes as identified in condition reports to provide enhancements and correct minor editorial changes (including plant labeling). (page 7)

- Condition Report 2011-2132 identified that some licensed operators are missing some training requirements from Rotation 11-1, and some severe accident management guideline training has exceeded the 3-year requirement for some licensed operators. This condition report was written to ensure training is scheduled as soon as possible after the current refueling outage. (page 11)

- Condition Report 2011-2164 identified that one method of venting containment described in the operational contingency action guideline, was not viable. This condition report was written to remove the procedure which described the process for venting containment by removing the personnel airlock-door sight glass. It was noted that there are other methods of venting containment described in the operational contingency action guideline. (page 11)

**GINNA** <http://pbadupws.nrc.gov/docs/ML1113/ML111310015.pdf>

- The licensee identified minor equipment and procedural issues that would not preclude the successful implementation of existing mitigating strategies. Condition reports (CR) that were documented to address the procedure and program deficiencies are listed in the Attachment. (page 12)

- Several additional CRs were initiated to document and track resolution of equipment issues and procedure enhancements. The inspector determined these deficiencies would not impact the licensee's ability to respond to an SBO event. The CRs are listed in the Attachment of this report. (page 14)

**Grand Gulf** <http://pbadupws.nrc.gov/docs/ML1113/ML11133A249.pdf>

- During the inspectors' walkdowns, it was noted some operators did not locate equipment in a timely manner. The licensee entered this issue into the corrective action program and have taken or will take actions to correct the issue identified by the inspectors. The issue identified by the inspectors would not have prevented accomplishment of the actions in the licensee's strategies. (page 9)

- The licensee identified that several keys required for station blackout procedures were not controlled by its key control procedure. One required key was not included in the shift manager's key locker. In addition, the licensee did not have inventories in process for nitrogen bottles that are also required. (page 12)

**Harris** <http://pbadupws.nrc.gov/docs/ML1113/ML111330088.pdf>

- Action Request (AR) 459882 was written to document that emergency response equipment (EDMP, trailers, fire hoses and nozzles, radios, self contained breathing apparatuses, satellite phones and turnout gear) were stored in locations susceptible to seismic events. (page 9)

- AR 461904 was developed to track the inspectors' question regarding the basis for concluding that no safety related equipment will be damaged as a result of the maximum internal flood level of 11.5 inches in the RAB (Reactor Auxiliary Building.) (page 18)

**Hope Creek** <http://pbadupws.nrc.gov/docs/ML1113/ML111300180.pdf>

- The licensee identified several minor deficiencies during their review for which corrective action program (CAP) notifications were initiated. The licensee concluded that there were no significant deficiencies with respect to strategy implementation. The inspector's review concluded that this equipment was available and functional. (page 8)

- While no operability or significant concerns were identified, the licensee identified issues with: the use of sandbags as a flood barrier; with flooding analysis following a plant modification; and with the cleaning and inspecting of floor drains. The inspector also identified some additional minor observations regarding the condition of certain potential flood areas. The licensee initiated the appropriate CAP notifications for further assessment and resolution of the licensee and inspector identified issues, as listed in the Supplemental Information Attachment of this report. The inspector reviewed the associated CAP

notifications, and determined the licensee's initial responses, including, their assessment and prioritization, were appropriate. (page 15)

**Indian Point 2** <http://pbadupws.nrc.gov/docs/ML1113/ML111320311.pdf>

- The inspectors concluded that overall the required equipment is available and functional. However, as a result of the NRC inspection, the inspectors identified an unresolved item for Entergy not ensuring the operability of the containment hydrogen recombiners as required in Technical Requirements Manual Section 3.7.F, "Post Accident Containment Venting System." Specifically, Entergy had not performed testing as described in UFSAR Section 6.8.5, "Post Accident Hydrogen Control Systems - Inspections and Tests," each refueling outage. The test was last performed in accordance with Procedure 2-CY-3610, "Passive Hydrogen Recombiner Inspection and Testing," in April 2006. (page 8)

- Specifically, a portion of the structural maintenance rule inspection for the intake structure, the circulating water pumps bays and the safety related service water pump bays, was not performed within the 5 year required interval or within the 250/o grace period, and there was no planned date for this inspection. (page 16)

**Indian Point 3** <http://pbadupws.nrc.gov/docs/ML1113/ML111310606.pdf>

- While no operability or significant concerns were identified, the licensee identified issues with the onsite availability of submersible pumps and sandbags needed at certain flood levels. The inspectors identified a minor issue regarding a Turbine Building floor drain supplemental inflatable plug that was not suitable for installation. (page 15)

- Entergy identified (CR-P2-201 1-1681) that the site response to a fire, following a SSE, would present potential vulnerabilities. The potential vulnerabilities stem from the fact that the fire protection system is: in some areas, installed in nonsafety related buildings; comprised of buried/underground fire headers; consist of fire pumps that are impacted by non-seismic cinder-block walls; and city water makeup supply to the fuel storage building is not seismically designed, and could result in loss of portions of the fire protection system following a SSE. Entergy's mitigation strategy for these potential vulnerabilities includes immediate response by the onsite fire brigade, through established Pre-Fire Plans, and supplemented, as necessary, by external organizations through implementation of the Indian Point Fire and Emergency Medical Services Response and Mutual Aid Plan. (page 17)

**Kewaunee** <http://pbadupws.nrc.gov/docs/ML1113/ML111320380.pdf>

- An adapter was needed for a hose connection to a spool piece. The licensee initiated condition report (CR) CR418599, the adapter was fabricated, and the equipment was appropriately staged by the completion of this inspection. (page 6)

- "Recovery Plan for Catastrophic Events," contained five steps that could not be performed as written. The licensee initiated CR418583 and immediately corrected the steps. (page 15)

- In NRC Inspection Report 05000305/2011002, Section 4OA3.1, the inspectors opened an unresolved item (URI) for the failure of the TSC diesel generator to load bus 46 during a partial loss of offsite power event. The inspectors verified that the licensee took immediate corrective actions to repair the failed breaker latching relay. However, the inspectors were still reviewing this issue in the 2011 second quarter inspection period to determine if a performance deficiency occurred. (page 16)

- Clean out plugs in the screenhouse floor drain piping were not properly secured and leaked during normal SW backwash operation and caused leakage into the screenhouse. The licensee placed the covers back in place and weighted them down with sandbags to preclude leakage. The licensee entered these issues into the CAP as CR418867 and CR361156, and initiated a corrective action to have engineering permanently correct the design. (page 20)

**Lasalle** <http://pbadupws.nrc.gov/docs/ML1113/ML111320393.pdf>

- The licensee's walkdown of flooding equipment identified a vulnerability in isolating an internal flood to the plant from the circulating water system. LOA-FLD-001, Flooding, which is the plant



procedure to mitigate internal flooding, directs having mechanical maintenance personnel install stop logs into each circulating water forebay to isolate the flood. These actions would have to be performed for each unit in case of a breach in the circulating water system to prevent the lake from gravity-draining into the plant. During the licensee's walkdown, it was identified that only four sets of stop logs were available at LaSalle, which is enough for two out of the six bays. (page 17)

**Limerick** <http://pbadupws.nrc.gov/docs/ML1113/ML111300367.pdf>

- The NRC inspectors determined that Limerick's procedures for response to an SBO were executable. However, the inspectors identified a potential issue regarding the licensing basis for the assumed alternate AC power source. Supplemental Safety Evaluation for Station Blackout Rule (10 CFR 50.63) for Limerick Units 1 and 2, dated June 10, 1992, documented the NRC Staff's evaluation of Limerick's proposed alternate AC power source for the blacked out unit. The alternate AC power source credited the excess capacity from the non-blackened out unit's emergency diesel generators (EDG). Considering the single failure criterion, three EDGs on the non-blackened out unit were assumed to be available. The inspectors found that, in certain SBO scenarios, only two EDGs from the non-blackened out unit would be available, whereas the current licensing basis assumes three EDGs would be available on the non-blackened out unit. .... The inability to satisfy the licensing basis assumed alternate AC power source (i.e., three EDG's on the non-blackened out unit without using recovery procedures) during a certain Unit 1 station blackout event requires further review to determine compliance with 10 CFR Part 50.63. (page 14-15)

**McGuire** <http://pbadupws.nrc.gov/docs/ML1113/ML111330180.pdf>

- Attempts to run the Godwin portable sump pump were unsuccessful on initial attempts due to a failed battery. The vendor was notified, the battery was replaced, and the pump was successfully started. The Godwin portable sump pump was inspected but flow tests were not performed because the pump was staged for use to support Unit 2 outage activities. The pump vendor performs preventative pump maintenance on a three month interval. (page 9)

- Procedures were not written to remove beyond design basis flood water from the Auxiliary and Turbine Buildings. (page 11)

**Millstone** <http://pbadupws.nrc.gov/docs/ML1113/ML111320660.pdf>

- The inspector determined that the Unit 1 fire main isolation valve would need to be operated to pressurize the fire main to mitigate a fire in Unit 1, but the valve would be under water (inaccessible) following a design basis flood event. This item required further evaluation and was documented in Dominion's CAP. (page 19)

**Monticello** <http://pbadupws.nrc.gov/docs/ML1113/ML111320400.pdf>

- While performing the fire brigade inventory (1224), some equipment was not in the proper storage location, and some equipment called out in the B.5.b procedures was not on the inventory as expected. Corrective actions were documented to correct these issues. The missing equipment from the B.5.b procedures is readily available at numerous locations onsite; however, a dedicated supply was not in the dedicated B.5.b storage location. (page 6)

**Nine Mile** <http://pbadupws.nrc.gov/docs/ML1113/ML111320448.pdf>

- The licensee did not identify any significant deficiencies. Enhancements and minor deficiencies such as missing labels, fittings, or tools were captured in the corrective action program and promptly corrected. The condition reports (CR) are listed in the supplement of this report. Based on the reviews conducted, the inspector concluded that the equipment was available and functional. (page 8)

**North Anna** <http://pbadupws.nrc.gov/docs/ML1113/ML111330155.pdf>

- Procedurally required equipment consisting of a site dump truck specifically owned and controlled by the licensee was not available and a portable generator was not functional when tested. The licensee

initiated condition report (CR)418115 for the following corrective actions: credit for onsite dump truck was resolved by agreement with the site separation team and a long term action was initiated to procure a dump truck; the generator was sent off site for repair and a substitute generated was rented for the interim period. (page 4)

**Oconee** <http://pbadupws.nrc.gov/docs/ML1113/ML111330175.pdf>

- Problem Investigation Program reports (PIP) O-11-2808 & 2926 identified that a 2010 modification removed the piping that was used to vent the Unit 2 RB. The guidance in the SAMG removed the blank flange from the end of the unused hydrogen recombiner piping and opened the RB radiation monitor penetration valves to vent the RB should RB pressure exceed 100 psig. The Unit 2 piping was cut and capped rendering the reactor building vent path unavailable. The piping on Unit 1 and 3 is still intact; however, these pipes will also be capped when the tornado modifications are completed. (page 3)

- A review of the equipment that would be used to pump water from the low pressure injection (LPI) or high pressure injection (HPI) rooms in the event of flooding in the Auxiliary Building identified that the plug on the sump pumps that would be lowered into the rooms did not fit any outlet in the area. If the air system was not available, alternate capabilities to remove water using air operated pumps would not be available. The plugs on all sump pump drop cords were changed to allow them to be used with the available outlets. (page 3)

- pump water from the LPI or HPI rooms, the start capacitor failed on two of four pumps tested. Plans to replace the capacitors are in place and periodic tests are being developed to ensure the pump will start when required. Alternate capabilities to remove water were available through the use of air operated pumps. (page 3)

- The licensee's review identified the following deficiencies associated with the service air system: 1) some of the preventive maintenance activities had been deferred several times and were currently outside of the recommended frequency for performance; and 2) full system capacity would not be available if one of the backup air dryers was isolated for routine maintenance. (page 4)

**Oyster Creek** <http://pbadupws.nrc.gov/docs/ML1113/ML111330025.pdf>

**Palisades** <http://pbadupws.nrc.gov/docs/ML1113/ML111320363.pdf>

- One section of hose for B.5.b response was missing. The staged B.5.b equipment trailer contained 29 hoses; 20 are needed with 10 additional lengths of hose as part of the normal inventory. The licensee initiated actions to obtain another length of hose. (page 3)

**Peach Bottom** <http://pbadupws.nrc.gov/docs/ML1113/ML111300540.pdf>

**Palo Verde** <http://pbadupws.nrc.gov/docs/ML1113/ML11133A328.pdf>

**Perry** <http://pbadupws.nrc.gov/docs/ML1113/ML111320382.pdf>

**Pilgrim** <http://pbadupws.nrc.gov/docs/ML1113/ML111310008.pdf>

- The inspector identified one minor deficiency, in that piping penetrations between the torus room and ECCS rooms, which were credited flood barriers, had not been included in Entergy's flood barrier structural monitoring surveillances. Entergy performed an initial review which determined that all of the pipe penetrations were equipped with water tight seal assemblies and that previous inspection of similar seals in other plant areas had not identified any significant degraded trends. Entergy entered this issue into their corrective action program as CR-PNP-2011-01530 and CRPNP-2011-01075 CA-20. The inspector reviewed the condition reports, and determined that Entergy's initial responses, including their assessment and prioritization, were appropriate. (page 11)

**Point Beach** <http://pbadupws.nrc.gov/docs/ML1113/ML111320368.pdf>

- A need to provide controls to prevent the placement or staging of equipment in areas that may challenge the completion of B.5.b actions. Specifically, the licensee identified that scaffolding, cables, and other equipment were placed in the location where the B.5.b pump would be staged to obtain water from one of the credited suction sources. Although the licensee was still able to place the pump at the credited source, it was difficult to place the pump as proceduralized. The licensee initiated condition reports AR01630519 and AR01638039 to assess this and similar issues that could result from outages or other activities on performing procedural actions. (page 6)

- A vulnerability due to a lack of procedural guidance to ensure that power cables (extension cords) were routed in a manner which ensured the cables were long enough to perform the intended functions. The licensee identified an insufficient number of power cables to support concurrent activities. Immediate CAs included the manufacture/purchase of new cables to ensure sufficient cables of the appropriate length and quantity were available. Additionally, the licensee is considering a modification to allow easier cable connections through wall penetrations. (page 13)

- A vulnerability in ECA 0.0 because the procedure would allow the G-05 gas turbine, the station SBO alternate-current power source, to be aligned to a 13.8 kiloVolt bus during an SBO while the unaffected side of the bus remained connected to the de-energized grid. This could cause G-05 to trip on under-voltage or under-frequency if it attempted to pick up load from the grid. The licensee has since changed the procedure to ensure G-05 is isolated from the grid during the response to an SBO. (page 15)

- The inspectors found no specific requirements for the frequency or quantity of repetitive training, such as simulator training or drills, related specifically to SBO, B.5.b, and other events. (page 21)

**Prairie Island Units 1 and 2** <http://pbadupws.nrc.gov/docs/ML1113/ML111320389.pdf>

Specifically, the licensee that Severe Accident Mitigation Guideline (SAMG)-related continuing training had not been provided to the necessary emergency response organization (ERO) members. The lack of SAMG continuing training for other ERO members resulted in extending the amount of time specific ERO members needed to implement the SAMG procedures. However, the SAMG procedures remained executable. (page 4)

- CAP 1276437 – EDMG Portable Pump and Tow Vehicle Stuck in Mud (page 6.)

- CAP 1276445 – EDMG Portable Fire Pump Suction Gauge not Functioning (page 6).

**Quad Cities Units 1 and 2** <http://pbadupws.nrc.gov/docs/ML1113/ML111320357.pdf>

- Flood barriers and penetrations that also serve as fire barriers were determined by the licensee to have been inspected on a routine basis as part of the site's fire protection program. However, the barriers and penetrations, that were not part of the fire protection program, were identified as not being routinely inspected. (page 9)

**River Bend** <http://pbadupws.nrc.gov/docs/ML1113/ML11133A144.pdf>

- CR-RBS-2011-03258: Several instruments, credited to notify operators of internal flooding, had no identified preventative maintenance history. The station is currently evaluating its preventative maintenance strategy. (page 14)

- CR-RBS-2011-02984 and CR-RBS-2011-03272: Discrepancies in door gaps, door design, and other gaps were identified which in some cases result in minor internal flood level increases greater than assumed in the design basis analysis. These water level - 14 – Enclosure increases would not result in submergence of any safe shutdown components. (page 14)

- CR-RBS-2011-03261: Inadequate preventative maintenance on external drainage pathways which resulted in undesirable debris, sedimentation, or vegetation accumulation. These conditions were determined to not invalidate assumption for external flood mitigation. (page 14)

**Robinson** <http://pbadupws.nrc.gov/docs/ML1113/ML111330081.pdf>

- EDMG-006, Electrical Power, implementation may require up to 8000 feet of electrical cabling. Sufficient cabling could not be located in the warehouse. Some of the required cabling had been reserved for other activities. The licensee located cabling on-site which could have been used to support the mitigating strategy. Actions were taken to procure additional cabling and maintain the required amount in inventory. AR 453999 was written to develop the permanent corrective actions. Note the use of the portable generator is a strategy beyond the B.5.b requirements. (page 4)

- EDMG-012, Core Cooling using Alternate Water Sources, Rev. 9 specifies two 12" adjustable wrenches for use in replacing the boron Injection Tank manway with an injection flange. The number and size of the nuts may require larger and higher torque producing tools to efficiently remove them, AR 459725. (page 9)

- EDMG-011, Spent Fuel Pool Casualty, Rev. 11, provides for several alternate methods for makeup to the spent fuel pool. Some of these methods require access to the spent fuel pool operating floor or other areas immediately adjacent to the spent fuel pool. There is a potential that radiation levels may not allow access to support some of the mitigation strategies, AR 459728. (page 9)

- EDMG-011, Spent Fuel Pool Casualty, Rev. 11, provided for use of a fire hose from the ground elevation to the spent fuel pool. The hose transitions from vertical to horizontal across concrete edges which could cause the hose to fail over time, (page 9)

- The post accident containment vent, path downstream of the Post Accident Containment Vent Filters is not hardened and may be vulnerable to failure as a result of hydrogen ignition. Procedures are currently in place to manage the combustibility of hydrogen via the addition of nitrogen to the containment, AR 459733. (page 9)

- The inspector noted that there were several drains that appear to have been partially obstructed. The licensee has flagged several drains that need additional attention and cleaning. During the walkdown, the operations staff found numerous instances where the drawing showed a floor drain existing in a specified location; however no drain could be seen in the indicated area. (page 13)

**St. Lucie** <http://pbadupws.nrc.gov/docs/ML1113/ML111330160.pdf>

- The licensee identified a potentially degraded flood barrier associated with the ultimate heat sink valve cubicles. The openings for the valve cubicles are below the design basis flood level, and are intended to be water tight to protect the safety-related valves and associated equipment located in the cubicles. Degraded concrete around the hatch has allowed water in-leakage. Although flooding of the ultimate heat sink valve would preclude the need to open the valve, the flood protection for the equipment is degraded from design. Licensee entered this item in their CAP as AR 1636642. (page 12)

**Salem** <http://pbadupws.nrc.gov/docs/ML1113/ML111300464.pdf>

- The licensee identified one issue regarding the 6-year continuing training frequency requirement for non-operations personnel qualified as a SAMG evaluator (similarly qualified licensed operators receive this training every two years). A CAP notification was written to address this issue. (page 4)

**San Onofre** <http://pbadupws.nrc.gov/docs/ML1113/ML11133A113.pdf>

- Deficiencies in training and qualifications were identified for operators and support staff. Specifically, one licensed operator had not received initial training on B.5.b strategies, the maintenance general foremen had only received a walkthrough of B.5.b strategies during initial B.5.b implementation with no formal qualifications, and approximately five percent of the individuals in the emergency response organization had not received training on B.5.b strategies. Other deficiencies identified were associated with a lack of continuing training requirements for severe accident management guidelines strategies for operators and support staff and a lack of continuing training requirements for B.5.b strategies for support staff. These deficiencies were entered into the corrective action program. Immediate actions were taken to train and qualify personnel as required. (page 5)

**Seabrook** <http://pbadupws.nrc.gov/docs/ML1113/ML111300174.pdf>

- While no operability or significant concerns were identified, NextEra identified issues with: the frequency of preventive maintenance activities on RHR vault sump level instruments; recurring EFW pumphouse floor drains blockage such that leakage through an adjacent room door had to be credited; and a minor UFSAR documentation issue (page 10.)

**Sequoyah** <http://pbadupws.nrc.gov/docs/ML1113/ML111330368.pdf>

- PER 341732: The licensee's SAMG procedure for injecting into containment (SAG- 4) did not provide a workable valve alignment sump via the containment spray system. The licensee issued a corrective action to evaluate the need for a revision to this procedure. (page 5)

- The licensee confirmed that applicable training and qualifications were in place and current, with the exception that 8 current maintenance supervisors had not yet received initial B.5.b training. The licensee issued a corrective action to ensure that this training will be provided. The licensee also identified several possible enhancements to these training programs, and entered these issues in the CAP (page 6.)

- PER 347351: Six station drainage valves required to be operated by the licensee's procedure for design basis flooding preparation could not be located during walkdown. Corrective action was issued to revise the procedure as necessary. (page 11)

- PER 339220: The manpower and timeline analysis associated with stage 1 and 2 flood preparation actions in AOP-N.03 Appendix D appears to be unrealistic. Corrective action was issued to re-evaluate and revise as needed. (page 11)

- PER 342980: Diesel generator fuel oil replenishment connections were located below the probable maximum flood level. Compensatory actions already existed to address flood protection. Corrective action was issued to review the design of the connections. (page 11)

**South Texas Project** <http://pbadupws.nrc.gov/docs/ML1113/ML11133A128.pdf>

- The licensee does not have a routine maintenance activity to measure portable fire pump flow. The portable fire pump was flow tested as part of initial purchase. However, the pump has since been overhauled due to damage during a dewatering activity in the turbine building. The licensee performed a flow verification test on April 21, 2011; the results were satisfactory. (page 4)

- The licensee identified the following discrepancies: old revisions of procedures in the fields, incomplete inventory checklists, excess items in emergency lockers, not periodically flow testing the portable fire pump, not periodically testing some removable maintenance panels, and other miscellaneous items. None of the identified gaps or deficiencies would be expected to impact the success of any severe accident action. (page 8)

**Summer** <http://pbadupws.nrc.gov/docs/ML1113/ML111330144.pdf>

- The most notable corrective action taken by the licensee was that they discovered the B.5.b 4 Enclosure portable submersible pump did not have a camloc fitting used to mate the discharge hoses with the pump. According to the licensee, it appears that the fitting was never installed and an alternate means was not staged with the B.5.b equipment; however, the licensee interviewed two mechanical maintenance supervisors and determined that mechanics could attach the discharge hose with a hose clamp and pipe section that is readily available on site. The licensee immediately ordered the correct fitting and, upon receipt, installed the camloc fitting along with an elbow to allow hose connection to the discharge side of the pump. The inspectors have verified that the discharge fitting will now correctly mate to the discharge hoses. (page 4)

- During walkdowns, the inspectors identified that contingency actions from BDMG-2.0, "RWST Makeup," Revision 1A, to create a borated water source using offsite materials were not detailed in nature. Specifically, the procedure lacked instructions on how to recirculate water using the fire truck to mix in boric acid and did not explain how to procure additional offsite equipment needed such as a swimming pool, septic tank or fabric tank. (page 5)



**Surry** <http://pbadupws.nrc.gov/docs/ML1113/ML111330132.pdf>

- One of the portable generators and the portable welding machine both failed to start when tested. The generator had old gas and the welding machine had a dead battery; these issues were corrected by the licensee and both pieces of equipment subsequently started and ran satisfactorily. The licensee has entered the above issues into their CAP as CR 418083. (page 4)

- The low head pump started and ran satisfactorily, but a >25gpm leak developed in a Polypipe fitting in the discharge piping. The licensee repaired the leak and re-started the pump, which significantly reduced but did not completely eliminate the leak. The licensee has entered the issue into their CAP as CR 418295. (page 4)

**Susquehanna** <http://pbadupws.nrc.gov/docs/ML1113/ML111310569.pdf>

- During a procedure walkdown of the ability to perform EP-PS-115, Tab K, Chemistry identified that a critical action to determine primary containment drywell Hz, Oz and Nz concentrations based on a sample of DW atmosphere, could not be completed due to a failed plant component. This failure of the Post Accident Sampling System (PASS) was discovered in January 2011 during a routine surveillance and is scheduled to be repaired in July 2011 (page 2)

- All equipment designated for use to respond to an SBO was verified as being available for use. PPL identified a vulnerability in that the SBO portable diesel generator may be susceptible to natural or manmade situations that would render it unavailable because it is not routinely stored in a hardened building or enclosure. (page 2)

**Three Mile Island** <http://pbadupws.nrc.gov/docs/ML1113/ML111310788.pdf>

- The licensee also identified that the assumed operator response time for a circulating water rupture in the turbine building was unrealistic. (page 11)

- The licensee has no equipment designated for use in the SAMGs that is not considered in situ plant equipment. All equipment (active and passive) designated for B.S.b was verified by the licensee to be in applicable procedures. All passive equipment was walked down and verified to be in place and ready for use. The licensee identified that a small portion (inflatable plugs) of the passive materials credited in the SFP leakage control strategy was not maintained at the onsite warehouse as described in the procedure (IR 1 189429). The inspectors determined that there was sufficient additional mitigation equipment available and appropriate corrective action was initiated to address this issue. (page 2)

**Turkey Point** <http://pbadupws.nrc.gov/docs/ML1113/ML111330163.pdf>

- Two of six nitrogen cylinders for steam dump to atmosphere operation had lower than minimum pressure, however the strategy remained functional. The issue was documented in the corrective action program and corrected. (page 5)

**Vermont Yankee** <http://pbadupws.nrc.gov/docs/ML1113/ML111310742.pdf>

- First, the inspectors identified that the licensee did not include the fire protection hoses relied on for 8.5.b mitigating strategies into a preventive maintenance (PM) program in accordance with the PM for hoses credited specifically in the fire protection program. Hoses stored in the equipment storage boxes for B.S.b were not included into the population for required hydrostatic testing or periodic replacement in accordance with the site PM program. Based on questions raised by the inspectors, the licensee performed hydrostatic testing on the hoses and verified functionality. Additionally, the inspectors determined that the hoses were still within their PM periodicity for replacement had they been appropriately entered into the licensee's program. (page 2)

- Finally, the inspectors identified that portable nitrogen gas bottles credited for manipulation of air operated valves were not periodically inspected to verify adequate gas pressure for implementation of B.5.b mitigation strategies. When questioned by the inspectors, the licensee performed pressure checks of all the nitrogen bottles and identified that the gas pressure in all of the bottles was below the nominal pressure rating on the equipment inventory list. However, the gas pressure in all of the bottles

was above the required pressure necessary in the B.5.b implementing procedure. Therefore, the inspectors determined that there was no loss of availability of the mitigation strategies associated with the portable nitrogen bottles. (page 3)

- The inspectors determined that the above issues were three examples of minor performance deficiencies with a common theme in that the licensee did not maintain equipment in accordance with guidance provided in NEI 06-12. (page 3)

**Vogtle** <http://pbadupws.nrc.gov/docs/ML1113/ML111330123.pdf>

- Existing guidance contained within SBO procedures for realignment and restoration of off-site power cannot currently be performed if main control room evacuation is required. This 'beyond design basis' scenario was not considered during initial SBO procedure development. (page 7)

- The licensee noted minor discrepancies related to house keeping with temporary material stored in areas that could potentially impact the internal flooding analysis. The licensee noted some roof storm drains that were partially blocked by debris and required cleaning. The licensee identified one blocked floor drain in the Unit 2 nuclear service cooling water structure. (page 9)

**Waterford** <http://pbadupws.nrc.gov/docs/ML1113/ML11133A162.pdf>

- Additionally, the licensee identified that the portable pump was never flow tested. However, the vendor manual allows for dry operation of the pump using vacuum check rig on the suction valve to ensure operability. The licensee generated a corrective action to evaluate the need to flow test the pump. However, based on the vendor technical manual, there is sufficient evidence to conclude the pump would function as designed. (page 4)

**Watts Bar** <http://pbadupws.nrc.gov/docs/ML1113/ML111330435.pdf>

- SAG-5, "Reduce Fission Product Releases," requires the ABGTS Pre-filter and HEPA filter be replaced if a change in differential pressure indicated that they were fouled. These filters were not staged in a plant location or readily available. (page 3)

- Inspectors performed a detailed review of MA-1, Recovery from Loss of Shutdown Power and Loss of ERCW. Two minor discrepancies were noted. One was an error in a diagram which showed the 1A Motor Driven AFW pump as a powered load, however in the procedure it was designated as the 1A Component Cooling System pump. The other error was related to the expected nominal amp readings on the portable diesel which were nonconservative (math error converting 2Kw at 480v to 2Kw at 6.9Kv). (page 4)

**Wolf Creek** <http://pbadupws.nrc.gov/docs/ML1113/ML11133A354.pdf>

- The licensee identified that extensive damage mitigation guidelines procedures to refill the refueling water storage tank are not viable because the specified connection point is not readily accessible. The licensee entered this issue into their corrective action program and is evaluating potential design changes to remedy this concern. (page 8)

- The licensee identified that extensive damage mitigation guideline procedures require additional precautionary guidance to prevent excessive reactor coolant system depressurization which could compromise natural circulation core cooling. The licensee entered this issue into their corrective action program and is evaluating procedural enhancements to remedy this concern. (page 8)

- Nuclear station operators failed to promptly locate certain emergency operating procedure components in the field. The inspectors determined that this was due to inadequate training, lack of specific procedural guidance, and over-reliance on a computer database of equipment locations. The computer database would be unavailable during an actual station blackout. (page 12)